

661-944-2015

WATER USE EFFICIENCY PROGRAM

date

signature of applicant

B. Scope of Work

Relevance and Importance

1. Executive Summary

Nitrates in the groundwater in the Littlerock area that result from prior agriculture practices have caused shutdown of over half of Littlerock Creek Irrigation District's wells, and at least one of a neighboring utility. The polluting practices were stopped several decades ago, but the resulting nitrates are in the ground as a growing and moving plume, driven by groundwater movement. This contaminated aquifer has caused the Littlerock Creek Irrigation District (LCID is a State Water Contracting Agency) to rely more heavily on the State Water System than it would if the aquifer were not contaminated. The plume is currently threatening more of LCID's wells, wells of LA County Water District, as well as some private wells.

The Littlerock Creek Irrigation District (LCID) is a Public Water System that serves fewer than 1,000 customers. The problem is too extensive for such a small agency to attend to without assistance. Although LCID is a State **Irrigation** District, its primary mission at this time is to provide potable water to residential customers (agricultural customers still use about 40% of the water that LCID sells). We consider this project to be both Agricultural and Urban in nature because the problem originated from Agricultural practices, and the current and future users are predominantly Urban.

The proposed strategy for protecting the threatened sources is to withdraw high-nitrate water from the contaminated zone in order to stop the movement of the plume before it renders those sources unusable as well. The withdrawn high-nitrate water will be blended with low-nitrate water to an acceptable level. This blended water will then be delivered to the District's customers and/or neighboring utilities for use. At times, the amount of blended water produced by this effort to halt the movement of the nitrate plume will exceed the rate of consumption of the district and the requirements of its neighboring utilities. Excess blended water will then be discharged to the Littlerock Wash in an area where the overlying soil is not saturated with nitrates. There it will be used to replenish the aquifer. This good water being released along the wash will further benefit the wells being protected by diluting any nitrate plume that has already reached them.

2. Statement of critical local, regional, Bay-Delta, state or federal water issues

This Project presents an opportunity for both total and seasonal water savings for the State Water Project. In addition to protecting existing wells, and restoring an aquifer, one major effect of this Project is a reduction in the mismatch between Bay-Delta Supplies and beneficial use of those supplies. This is to be accomplished through protection of local sources from contamination by nitrates that are already in the aquifer. ... By protecting the remaining wells from this plume, LCID's demand on the State

Water Project will be kept to a minimum. This project will prevent the further loss of sources to the nitrate plume. If Littlerock loses its local sources of potable water to the plume, other water will have to be imported. Should that occur, LCID's State Project Water usage would increase substantially to cover that loss of local sources. This project will prevent LCID's total dependency on the State Water Project supply.

Reduction in the mismatch is further accomplished by making this otherwise unavailable aquifer usable for seasonal water storage by the three local State Water Project Contracting Agencies (... thus reducing peak season demands on the State Water Project). With the nitrate plume contained, the aquifer will be available for the seasonal storage of State Project Water and therefore will reduce current demands on that water and its delivery system during those months that the State Delivery System is most used, as well as during times when the use of water through the Delta has the greatest impacts on the environment.

3. Nature, Scope and Objectives of project (Quantifiable Objectives)
Although this project does not fall into one of the twenty-one identified sub-regions, its objectives are quantifiable. Without this project, it is likely that LCID will have to become reliant upon the State Water System for the entirety of its water needs. This would increase year round demands by as much as 2,300 acre-feet. With this project, LCID's current consumption of State Project Water will probably be reduced by as much as 70%.

Technical/Scientific Merit, Feasibility, Monitoring and Assessment

4. Methods, procedures and facilities.
This problem has been thoroughly documented, and its solution evaluated in detail in a variety of separate documents that are available to the reviewer. In short, the solution is to prevent the nitrate plume from further damaging the aquifer, and to restore the aquifer's ability to be used for seasonal storage. This involves drilling a series of wells (restoring some wells) in the area where the nitrate levels are strongest, and withdrawing contaminated water. Once brought to the surface, the high nitrate water would be blended with low nitrate water to a point that it is well within the MCL limits. It will then be pumped into transmission and distribution piping for use by LCID's customers and by neighboring water districts, each of which are in short supply of water. Facilities required include: restoration of existing wells, new water wells, pipelines, blending facilities, storage tanks, and pumping facilities.

5. Schedule:

<u>TASK</u>	<u>START DATE</u>	<u>COMPLETION DATE</u>
Running Year 7/01-6/02 Engineering Design ○ Quarterly Reports (to be submitted within one	○ 7/01	○ 11/01

<p>month after the end of the quarter covered)</p> <p>These reports will address:</p> <ul style="list-style-type: none"> ▪ Construction progress, ▪ Results of operation of the completed facilities, ▪ And nitrate monitoring results <p>Construction</p> <ul style="list-style-type: none"> ○ Restore or replace existing wells 1 & 8 ○ Install collector line 1 to connect wells 1 & 8 to the Blending Facility ○ Construct a Blending Facility ○ Install pipeline to bring low-nitrate water to the Blending Facility ○ Construct a storage tank for the blended water ○ Install pipelines to deliver blended water to the distribution system 	<p>○ 12/01</p>	<ul style="list-style-type: none"> ○ 3rd 1/4 01-10/01 ○ 4th 1/4 01-1/02 ○ 1st 1/4 02-4/02 <p>○ 7/02</p>
<p>Running Year 7/02-6/03</p> <ul style="list-style-type: none"> ○ Quarterly Reports ○ Construct a Pump Station to deliver blended water into the distribution system <p><u>Milestone 1</u></p> <ul style="list-style-type: none"> ○ Place this portion of the system on-line 	<p>○ 7/02</p>	<p>2nd 1/4 02-7/02 3rd 1/4 02-10/02 4th 1/4 02-1/03 1st 1/4 03-4/03</p> <p>11/02</p>
<p>Running Year 7/03-6/04</p> <ul style="list-style-type: none"> ○ Quarterly Reports ○ Restore or replace existing wells 4 & 9 ○ Install piping to connect wells 4 & 9 to the Blending Facility <p><u>Milestone II</u></p> <ul style="list-style-type: none"> ○ Begin operation of wells 4 & 9 		<p>2nd 1/4 03-7/03 3rd 1/4 03-10/03 4th 1/4 03-1/04 1st 1/4 04-4/04 2nd 1/4 04-6/04</p> <p>○ 10/03</p>

<ul style="list-style-type: none"> ○ Restore or replace existing wells 3 & 5 ○ Install piping to connect wells 3 & 5 to the Blending Facility <p><u>Milestone III</u></p> <ul style="list-style-type: none"> ○ Begin operation of wells 3 & 5 		○ 1/04
<ul style="list-style-type: none"> ○ Restore or replace existing well 7 ○ Install piping to connect well 7 to the Blending Facility <p><u>Milestone IV</u></p> <ul style="list-style-type: none"> ○ Begin operation of well 7 		○ 6/04
Final Report		○ 6/04

6. Monitoring and assessment

Water Quality Monitoring (nitrate levels in water extracted from wells) is currently performed semi-annually in the area in two of LCID's wells that have been removed from potable water service, and several small private wells. In relation to this project, monitoring will be expanded to include all of the wells used to extract high-nitrate water, and will be conducted quarterly. Monitoring Reports will also indicate the amount of potable water produced by this project.

Two types of monitoring are included in this project, technical monitoring and non-technical monitoring. The technical type of monitoring requires sampling and testing that must be performed by trained personnel having access to equipment areas and private properties for sampling, and, a Certified Laboratory for testing; so the water quality issue is not suitable for "Citizen Monitoring". The non-technical monitoring includes observations and measurements of recharge activities on those occasions when the blended water will be discharged to the wash. The non-technical monitoring will include "Citizen Monitoring". Citizen Monitoring will involve photographic and numeric documentation of recharge activity along the wash.

C. Outreach, Community Involvement, and Information Transfer

1. Outreach to disadvantaged communities

Littlerock, which is the primary benefiting community, was established as a "disadvantaged community" by the 1998 independent survey of Household Incomes in the District performed for the USDA. This survey established an MHI of \$29,500 for this rural bedroom community. Based on this, the USDA determined Littlerock to be a "disadvantaged community".

In conjunction with the Antelope Valley Resource Conservation District, LCID plans to use "Citizen Monitoring" as discussed in Item B6 above, and D2 below.

2. Training, employment and capacity building potential

- Experienced and Licensed Contractors will be chosen to handle construction. To the extent that this project offers increased business to the contractors, manufacturers and vendors involved, training, employment and capacity building will increase.
- Operation of the system will be by the existing staff of LCID. LCID may need to hire, train and obtain certification for one additional staff member, as a result of this project.
3. Information dissemination on (sic.) results of project
The Antelope Valley Resource Conservation District, working with the local High School District, will be the primary means for disseminating information on the results of this project.
 4. Copy of letter sent to local land use entity, water district or other impacted or cooperating agency(ies) *
(see attached letter)

D. Qualifications of the Applicants, Cooperators, and Establishment of Partnerships

1. Résumé of the Project Manager*
(see attached résumé for David W. Hansen)
2. Identify and describe the role of external cooperators in this project.
The list of external cooperators is:

Agency Name:	<u>Palmdale Water District</u>	
Role/Contribution to Project:	<u>Supplies low-nitrate water from Cal Water Project and prospective purchase of blended water</u>	
Contact Person:	<u>Dennis Lamoreaux</u>	Phone No.: <u>(661) 947-4111</u>
Agency Name:	<u>LA County Waterworks Dist # 27</u>	
Role/Contribution to Project:	<u>Prospective purchase of blended water</u>	
Contact Person:	<u>George Papik</u>	Phone No.: <u>(626) 300-3349</u>
Agency Name:	<u>Antelope Valley State Water Contractor's Assn (AVSWCA)</u>	

* Not included in 12-page limit.

Role/Contribution to Project:	<u>Interest in protecting/improving groundwater basin</u>	
Contact Person:	<u>Brad Bones, GM-LCID</u>	Phone No.: <u>(661) 944- 2015</u>
E-mail address:	<u>lcid@qnet.com</u>	
Agency Name:	<u>Antelope Valley Resource Conservation District</u>	
Role/Contribution to Project:	<u>Coordinating Citizen Monitoring and Public Education</u>	
Contact Person:	<u>Richard Campbell</u>	Phone No.: <u>(661) 945- 2604</u>
E-mail address:	<u>Richard.Campbell@ca.usda.g ov</u>	

3. Information about partnerships developed to implement this project
Although this project involves cooperation between the above participants, no formal partnerships are being formed.

E. Costs and Benefits

1. Budget Summary and Breakdown* (See Attachments Hereto for support materials)

Summary of Project Budget	Total Budget	LCID Share (20%)	Cal-Fed/ DWR Share (80%)
General District Expenses	\$183,875	\$36,775	\$147,100
A. Salaries and Wages	\$0		
a Overhead <u>(~4%)</u>	\$183,875		
B. Fringe benefits	\$0		
C. Supplies	\$0		
D. Equipment	\$0		
Misc. Professional Services			
E. Services or consultants	\$32,000	\$6,400	\$25,600
1 Education (Antelope Valley Resource Conservation District)	\$20,000		
2 Engineering Studies (System Analysis & Video Well Surveys)	\$12,000		
F. Travel	\$0		
Construction Costs			

G. Other Direct Costs	<u>\$4,565,625</u>	<u>\$913,125</u>	<u>\$3,652,500</u>
1 Engineering	<u>\$644,700</u>		
a. Design Engineering @ 9.5%	<u>\$371,200</u>		
b Construction Inspection @ 7%	<u>\$273,500</u>		
2 Construction Expenses	<u>\$3,907,425</u>		
a. Supply Well Restoration	<u>\$185,000</u>		
b Supply Well Replacement	<u>\$861,250</u>		
c. Blending Facility Costs	<u>\$560,000</u>		
d Raw Water Collector Lines	<u>\$316,175</u>		
e. Low-nitrate Supply and Lines	<u>\$1,664,000</u>		
f. Blended Water Delivery	<u>\$321,000</u>		
3 CEQA/NEPA	<u>\$13,500</u>		
H. TOTAL PROJECT BUDGET	<u>\$4,781,500</u>	<u>\$956,300</u>	<u>\$3,825,200</u>

2. Budget Justification

District costs associated with administering the program to be funded under this Application are shown as “Overhead”. For the purposes of budgeting, this has been estimated as a percentage of the various “Project Costs”. No separate property acquisitions, or movable pieces of equipment, are included in the Project.

The costs of Professional Engineering Design and Inspection services are directly related to the amount of work to be performed, and have been estimated using percentage factors applied to the cost of construction.

3. Benefit Summary and Breakdown

a. Quantify project outcomes and benefits (sharing of benefits among beneficiaries)
Today’s (2/12/01) Newspaper Lead Headline says: “CITY WATER TO RUN SHORT BY 2020”. The second headline says “State Water Scarce for Desert Use”. This has been known for some time, and being in an arid area of the high desert, all of the water agencies around are concerned. The article focuses on the Palmdale Water District. It could just as well as focused on AVEK (Antelope Valley East Kern) which sells water to the LA County Waterworks Districts, an agency that serves the City of Lancaster and a multitude of rural outlying areas, or the Littlerock Creek Irrigation District. These agencies are all looking carefully at their near term, and long term, water supply opportunities.

A major problem that these agencies share is an inability to take State Project Water during off peak seasons and hold it for use during summertime. One of the limiting factors is the lack of available groundwater basins in an area that could be recharged from the aqueduct. The aqueduct runs through LCID just

south of the south edge of the large aquifer that is being affected by the nitrate plume. At this time, the plume has not only caused the shutdown of seven of LCID's twelve wells, it has shut down one of the LACWWD's wells and is threatening two of LCID's remaining wells. (Two more wells that are not in the area of the plume have been shut down for other reasons as well) If this plume remains unchecked, it could effectively shut down all of LCID's local supply. If that were to occur, LCID would have to rely on its 2300 AF/yr State Project Water allotment to meet its needs. (LCID currently uses very little of that allotment.)

Without controlling the nitrate plume, the local supply of water that refills this basin is lost to pollution, and the aquifer is not available for seasonal storage of State Project Water.

Completion of the project would benefit LCID (a State Water Contractor), LACWWD, PWD (a State Water Contractor), and AVEK (a State Water Contractor). It would restore the basin to usable condition; it would make blended water directly available to the Palmdale Water District, and to the nearest LA County Waterworks District; and because each of these agencies have wells nearby, it would provide an area where these agencies could cooperatively store State Project Water on a seasonal basis.

It is anticipated that within five years of getting this project underway, the movement of the nitrate plume will be measurably reduced, and within about twenty years of its operation, this project will essentially restore the aquifer to its before contamination condition. That places its ability to be used for groundwater storage at the right time to meet the 2020 crunch noted in today's paper.

By significantly reducing over time, the level of nitrates left in the ground in the area of the plume's origin ... this project will recover water that is currently being written off because of contamination and therefore increase the local supply of water available. It would allow these three State Water Contractors to be less dependent on the SWP during summer months. Through these changes this project can result in a significant reduction of "pressure" on the State Water System from this area.

Unfortunately because of the cost to operate the project there will be costs, not savings associated with its implementation. Because of this, LCID is asking for as much construction cost funding in the form of a Grant as possible (we are seeking an 80% Grant). The other agencies have no financial obligation to clean up this problem that primarily affects LCID's facilities. Since LCID will be subsidizing its operation in order to result in the basin clean up, LCID is asking

for significant assistance in construction funding. Proper clean up requires withdrawing more water than LCID can use, the other agencies' cooperation in buying that water, and marketing it, is a significant contribution on their parts.

- b. Qualitative description of non-quantifiable outcomes (direct or indirect benefits to Cal-Fed)

Water that is produced by the blending process that exceeds the consumption needs of LCID, PWD, and the LACWWD will be discharged into the Littlerock Wash for groundwater recharge in an area downstream of the Nitrate Plume. This will produce some enhanced areas for local wildlife in the streambed where the water soaks up into the ground.

This project will provide a good demonstration of how an aquifer that would otherwise be written off can be prevented from getting worse, and eventually be restored to useable condition. It will also demonstrate for other State Project Users how a groundwater basin can be managed in a manner that seasonal storage can be implemented once a threat to the aquifer has been mitigated.

4. Assessment of Costs and Benefits

- a. List and explain all major analysis assumptions
- i. This aquifer can be restored as recommended by the series of Geological and Engineering Reports on it that have been prepared by a variety of State, Regional, and Local Agencies.
 - ii. Grant funding will be made available in significant quantities to pay the capital costs of the facilities required.
 - iii. PWD and LACWWD will take full advantage of this supply of blended water to them.
 - iv. Operations will be paid for by the Littlerock Creek Irrigation District. (These costs will be recovered in part through the cost of water sold to District customers, and in part through the revenues derived through the sale of water to the LACWWD, and PWD.)
 - v. LCID may have to subsidize the cost of operation to keep the costs to LACWWD and PWD competitive with the cost of State Project Water.
 - vi. The costs to be borne by the LCID residential customer base will be reasonable. (LCID has about 980 connected users at this time.)
 - vii. The facilities will last the 20-25 years required to cleanup the problem, and will not need to be replaced.
- b. All benefits and costs to be expressed in 2000 dollars (do not adjust for expected inflation)
- i. The facility will cost \$4,781,500 to install
 - ii. Once installed, this facility should produce about 2,856 acre feet of blended water annually, and should cost about \$180 per acre-foot to operate.

(LCID's cost for treated State Project Water is currently \$165.00 per acre-foot of water. In order to make this water attractive to PWD and LACWWD, it will be necessary for LCID to sell it at about \$155 per acre-foot, and subsidize the program at about \$25 per acre-foot.)

- iii. At 2,856 acre-feet per year, costing \$180 per year, the annual cost of operation will be \$514,080.
- iv. At \$25 per acre-foot, the annual cost of subsidy will be approximately \$71,400.
- c. Convert all costs to present value equivalents before integrating them (use 6% discount rate)
 - i. Present day cost of Construction \$4,781,500
 - ii. Present Day cost of 20 years of Operation
(\$514,080/yr for 20 yrs @ 6% \$5,896,500
- d. Table showing present value of the quantified costs and benefits for the applicant, each project beneficiary, Cal-Fed, and any other affected parties. Summarize the non-quantified costs and benefits to the applicant, each project beneficiary, Cal-Fed, and any other affected parties.

Benefiting Agency	Extent of Benefit	Proposed Funding	Annual Opern'l Costs
LCID	LCID will regain the use of water that has otherwise been lost to the nitrate plume. The vast majority of LCID's water comes from the local aquifer. This project will protect the aquifer from further degradation, and eventually will restore the aquifer to pre plume conditions. Once the aquifer is restored, it can be used by LCID, PWD and AVEK for seasonal storage of State Project Water.	\$781,500 25% of the Const Cost	\$514,080 Full Annual Operat. Cost
PWD	The interconnection with PWD will provide PWD a supply of water to the east end of their system. The water will be provided at a usable pressure without their having to pump it. PWD relies on local wells for about one-half of their water, the remainder of	\$0	\$??? Cost Depends

	<p>their water must come from the State Water Project via and from Littlerock Dam.</p> <p>The project will provide some protection to PWD wells that are near the area affected by the plume.</p> <p>Once the aquifer is restored, it can be used by LCID, PWD and AVEK for seasonal storage of State Project Water.</p>		On How Much Blended Water Used
LACWWD	<p>The interconnection with LCID will provide LACWWD a supply of water in a remote corner of their system. The water will be provided at a usable pressure without their having to pump it. LACWWD relies on local wells for a portion of their water, but most of their water must come from the State Water Project via AVEK.</p> <p>The project will provide some protection to LACWWD wells that are near the area affected by the plume.</p> <p>Once the aquifer is restored, it can be used by LCID, PWD and AVEK for seasonal storage of State Project Water.</p>	\$0	<p>\$???</p> <p>Cost Depends On How Much Blended Water Used</p>
CAL-FED	<p>Immediate Benefit of Reduction of demands on the State Water Project in the amount presently taken annually by LCID</p> <p>Future Benefit resulting from seasonal storage of water in the protected aquifer is reduced demands on the State Water Project by AVEK, PWD, and LCID in times of peak flow, and times when reduced flows through the Delta are required for environmental reasons.</p>	<p>\$4,000,000</p> <p>75% of the Const Cost + all other Costs</p>	\$0

APPENDIX I - MAPS

APPENDIX II - COPY OF LETTER TO COOPERATING AGENCIES

APPENDIX III - RESUME OF PROJECT MANAGER

APPENDIX IV - CONSTRUCTION BUDGET BREAKDOWN

Budget Item Detail	Total Budget
a. Supply Well Restoration (2)	\$185,000
Restore 2 wells	\$92,500ea.
Demo & Site Preparation	\$7,250
Pump House	\$20,000
Well Restoration	\$27,000
Equip	\$28,000
Controls	\$5,000
Site Piping	\$5,000
b. Supply Well Replacement (5)	\$861,250
Drill & Equip New Wells	\$172,250ea.
Demo & Site Preparation	\$7,250
Abandon Old Well	\$30,000
Pump House	\$20,000
Drill & Case New Well	\$82,000
Equip	\$28,000
Controls	\$5,000
c. Blending Facility Costs	\$560,000
Site Work	\$135,000
Mobilization/Demo	\$42,000
Security Fencing	\$5,000
Site Paving	\$12,000
Site Landscaping	\$18,000
Site Piping	\$8,000
Controls/Chlorination Equipment Building	\$30,000
Block-wall Screen	\$5,000
Telemetry	\$15,000
Blending Equipment	\$85,000
Modify ex. Hydro Tank Into Surge Tank	\$10,000
Static Blending Unit with Mixing Valves	\$30,000
Controls	\$20,000
Chlorine Generation Unit	\$25,000
Blended Water Clearwell (0.5mg-Bolted)	\$120,000
Pump Facilities	\$220,000
Suction side Header	\$12,000
Discharge-side Header	\$12,000

Discharge-side Surge Tank	\$18,000
4 Pumps, with Motors and Cans	\$100,000
Controls/Electric Supply	\$78,000
d. Raw Water Collector Lines	\$316,175
Collector Line 1 (well 1 & 8 to Blend site)	\$103,455
725' of 8" @ \$34/' (well 1 to Ave U)	\$24,650
275' of 10" @ \$35/' (well 8 to Ave U)	\$9,625
1,255' of 12" @ \$36/' (Ave U 87 th to 85 th)	\$45,180
600' of 14" @ \$40/' (85 th Ave U to Blend site)	\$24,000
Collector Line 2	\$139,640
1,300' of 10" @ \$35/' (well 9 to 85 th /T8)	\$45,500
2,615' of 12" @ \$36/' (85 th from t8 to Ave U)	\$94,140
Collector Line 3	\$38,980
850' of 8" @ \$34/' (well 3 to well 4 on T8)	\$28,900
280' of 12" @ \$36/' (Well 4 to 85 th /T8)	\$10,080
Collector Line 4	\$30,600
900' of 8" @ \$34/' (well 7 to Blend site)	\$30,600
Collector Line 5	\$3,500
100' of 10" @ \$35/' (well 5 to Blend equip't on-site)	\$3,500
e. Low-nitrate Supply and Lines	\$1,664,000
17,340' of 12" @ \$36/'	\$624,240
6,540' of 16" @ \$45/'	\$294,300
16" Highway Crossing	\$41,460
1mg Storage Tank	\$350,000
New Well	\$354,000
f. Blended Water Delivery	\$321,000
Zone 1	\$39,000
1,000' of 12" @ \$36/'	\$36,000
Connection to Existing Main	\$3,000
Zone 2	\$115,000
2,460' of 16" @ \$45/'	\$110,700
Connection to Existing Main	\$4,300
Palmdale Water District Connection Modifications	\$40,000
Pressure Reduction and Metering	\$40,000
LA County Waterworks District	\$127,000
2,460' of 16" @ \$45/'	\$110,700
Metering	\$12,000
Connection to Existing Main	\$4,300

Construction Expenses

\$3,907,425

APPENDIX V - YEARLY BUDGETS FOR DURATION OF CONSTRUCTION PROJECT

BUDGET FOR RUNNING YEAR 7/01-6/02	Total Budget	LCID Share (20%)	Cal-Fed/ DWR Share (80%)
General District Expenses	\$122,800	\$24,560	\$98,240
E. Salaries and Wages	\$122,800		
a Overhead (<u>~4%</u>)	\$122,800		
F. Fringe benefits	\$0		
G. Supplies	\$0		
H. Equipment	\$0		
Misc. Professional Services	\$12,000	\$2,400	\$9,600
E. Services or consultants	\$12,000		
1 Education (Antelope Valley Resource Conservation District)	\$0		
2 Engineering Studies (System Analysis & Video Well Surveys)	\$12,000		
F. Travel	\$0		
Construction Costs			
G. Other Direct Costs	\$3,058,205	\$611,641	\$2,446,564
1 Engineering	\$431,250		
a. Design Engineering @ 9.5%	\$248,250		
b. Construction Inspection @ 7%	\$183,000		
2 Construction Expenses	\$2,613,455		
a. Restore Supply Wells 1 & 8	\$185,000		
b. Blending Facility Costs	\$340,000		
c. Raw Water Collector Lines (# 1)	\$103,455		
d. Low-nitrate Supply and Lines	\$1,664,000		
e. Blended Water Delivery	\$321,000		
3 CEQA/NEPA	\$13,500		

TOTAL 01-02 BUDGET	\$3,193,005	\$638,601	\$2,554,404
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BUDGET FOR RUNNING YEAR 7/02-6/03	Total Budget	LCID Share (20%)	Cal-Fed/ DWR Share (80%)
General District Expenses	\$33,675	\$6,735	\$26,940
I. Salaries and Wages	\$0		
a Overhead <u>(~4%)</u>	\$33,675		
J. Fringe benefits	\$0		
K. Supplies	\$0		
L. Equipment	\$0		
Misc. Professional Services			
E. Services or consultants	\$10,000	\$2,000	\$8,000
1 Education (Antelope Valley Resource Conservation District)	\$10,000		
F. Travel	\$0		
Construction Costs			
G. Other Direct Costs	\$832,070	\$166,414	\$665,656
1 Engineering	\$117,850		
a. Design Engineering @ 9.5%	\$67,850		
b. Construction Inspection @ 7%	\$50,000		
2 Construction Expenses	\$714,220		
a. Replace Supply Wells 4 & 9	\$344,500		
b. Blending Facility Pump Station	\$220,000		
c. Raw Water Collector Lines 2 & 3b	\$149,720		
TOTAL 02-03 BUDGET	\$875,745	\$175,149	\$700,596

BUDGET FOR RUNNING YEAR 7/03-6/04	Total Budget	LCID Share (20%)	Cal-Fed/ DWR Share (80%)
General District Expenses	\$27,400	\$5,480	\$21,920
M. Salaries and Wages	\$0		
a Overhead <u>(~4%)</u>	\$27,400		
N. Fringe benefits	\$0		
O. Supplies	\$0		
P. Equipment	\$0		
Misc. Professional Services			
E. Services or consultants	\$10,000	\$2,000	\$8,000
1 Education (Antelope Valley Resource Conservation District)	\$10,000		
F. Travel	\$0		
Construction Costs			
G. Other Direct Costs	\$675,350	\$135,070	\$540,280
1 Engineering	\$95,600		
a. Design Engineering @ 9.5%	\$55,100		
b. Construction Inspection @ 7%	\$40,500		
2 Construction Expenses	\$579,750		
a. Supply Well 3, 5 & 7 Replacement	\$516,750		
b. Raw Water Collector Lines 3a, 4 & 5	\$63,000		
TOTAL 03-04 BUDGET	\$712,750	\$142,550	\$570,200